

## 11. ROADS AND TRANSPORTATION

### INTRODUCTION

A major factor in Newton's development will be the ability of the town to respond to continuing growth in travel demands . Newton grew rapidly during the decade of the seventies, from a population of 1,920 in 1970 to a population of 3,068 in 1980. The growth rate slowed slightly, resulting in a 1990 population of 3,473.

By 1998, according to the New Hampshire School Boards Association, the growth rate had increased to an estimated 1.5% per year. At this rate, Newton ' s current estimated population of 4,100, as reported in the 1997 Town Report, will grow in five years to 4,417.

Maintenance and expansion of the local road system, parking and pedestrian facilities, alternative transportation, and wise planning of the location and extent of future development will play an important role in Newton's future .

Newton's transportation network consists of roads, senior and disabled resident transportation, and an active rail line. Of the 37.6 miles of roadway in Newton, 12.7 miles are State roads, 23.6 miles are town roads, and 1.3 miles are private roads. The major highway corridor , State Route 108, is laid out in a generally north-south configuration, which directly relates to the major commuter patterns for the town. Senior and disabled resident transportation is provided by Lamprey Health Care. The rail line is owned by Guilford Transportation . The Boston and Maine Railroad manages freight rail service , which currently does not stop in Newton. Amtrak is soon to begin passenger service on the same rail line, but this train is not expected to stop in Newton.

### COMMUTING PATTERNS

According to the 1990 Census, 63.2% of employed Newton residents commute to Massachusetts for work. Haverhill was the single largest Massachusetts destination with 207 Newton commuters (11.4% of the total). Other towns and cities that receive large numbers of Newton workers (greater than 4% of the total) include: Newton (216), Plaistow (122), North Andover (118), Newburyport (106), Andover (93), and Boston (80).

Heavy commuter travel to the south places a burden on the roads connecting Newton to Massachusetts and Plaistow, including Route 108, Smith Comer Road, Amesbury Road, and Merrimac Road. Continued growth, assuming patterns remain the same, will increase demands on these roads. The continued growth of Newton, regardless of commuting patterns, will increase the demands placed on east-west corridors such as Peaslee Crossing Road, Thornell Road, and Highland Street.

Table 27 shows Average Annual Daily Traffic (AADT) counts conducted by NHDOT and Rockingham Planning Commission at select locations in Newton.

Table 27: Average Annual Daily Traffic (AADT)

<i>Location</i>		<i>1995</i>	<i>1996</i>	<i>1997</i>
Rte 108 north of Thornell Rd.	NHDOT	4100	3600	
	RPC	4312	4400	
Amesbury Rd. east of Maple Ave.	NHDOT	-	3000	
Rte 108 @ East Kingston Town Line	NHDOT	1900	-	1748
	RPC	2096	-	2200
Merrimac Rd @ MA State Line	NHDOT	-	1900	
West Main St. @ Kingston Town Line	NHDOT		1700	
Amesbury Rd. @ MA State Line	NHDOT		1500	
Merrimac Rd. east of Rte 108	NHDOT		1300	
New Boston Rd. @ Kingston Town Line	NHDOT	-	1200	
	RPC		1460	
Peaslee Crossing Rd. west of Baker	NHDOT		1200	
Bear Hill Rd. @ MA State Line	NHDOT	-	1100	
	RPC	-	1287	
Whittier St. Ext. @ Plaistow Town Line	NHDOT		820	
Maple Ave. @ So. Hampton Town Line	NHDOT	-	550	
Hilldale Ave @ So. Hampton Town Line	NHDOT	-	210	
Dugway Rd @ So. Hampton Town Line	RPC	-	247	

## GENERAL ROADWAY CHARACTERISTICS

The majority of Newton's roads reflect the traditional development of a rural New England town. The roads have, in many cases, developed along the rights-of-way provided between neighboring parcels bounded by stone walls. The roads also tend to radiate from the three major centers of town: Newton Junction, Rowes Comer, and the Town Hall area.

Many of Newton's roads have never been constructed with a proper gravel base and are generally not able to meet current travel demands or heavy trucking. According to the Inventory and Assessment of Road Surfaces for the Town of Newton report completed in 1995 by the Technology Transfer Center at UNH, 37% of the Town of Newton's paved local roads need rehabilitation or reconstruction. Many other miles of paved and aggregate roads also require repairs. (See Table 28 for details.)

**Table 28: Paved Roads with Conditions Requiring Attention**

<i>Road Name</i>	<i>Cracking</i>	<i>Patches Pot-holes</i>	<i>Drainage</i>	<i>Roughness</i>	<i>Rutting</i>
Bartlett Street			Poor		
Birch Road			Poor		
Brimstone Circle	Moderate edge cracking				
Gale Village Road	Moderate transitional and alligator cracking				Rutting
Goulds Hill Road	Moderate transitional cracking				Rutting
Hadley Road	Extensive edge cracking				Rutting
Heath Street	Moderate transitional, alligator and cracking	Moderate			Rutting
Marcoux Grove	Moderate transitional cracking				Rutting
New Boston Road	Moderate transitional cracking				
Packer Meadows Drive	Moderate transitional cracking				
Pond Street					Rutting
Pricilla Lane	Moderate transitional cracking				
Tanglewood Drive					Rutting
Town Hall Road			Poor		
Websters Grove Road					Rutting
Wentworth Drive			Poor		
Whittier Street Extension	Moderate transitional and edge cracking				Rutting

Many town roads fall into one or more of the following categories of safety problems: narrow width; varying widths; severely curved with limited sight distance; obstructions in traveled way; or poorly aligned intersections. (Refer to Table 29 and Table 30. NOTE: These tables come from the 1986 Master Plan and may, in some cases, need to be revised.)

**Table 29: Road Segment Problems**

<i>Location</i>	<i>Narrow Widths</i>	<i>Variable Surface Widths</i>	<i>Severe Curves with Limited Sight Distance</i>
Pond Street	*	*	
Country Pond Road	*	*	
<b>Mill Street</b>	*		
Elm Street	*		
Bartlett Street	*		
Chase Road	*		
Wallace Street	*		
Wentworth Drive	*		
Lincoln Road	*		
Gale Village Road	*	*	*
Maple Avenue	*		
Currierville Road (dirt)	*		
Dugway Road	*		
Peaslee Crossing Road		*	*
Smith Corner Road	*	*	*
Gould's Hill	*	*	
Heath Street	*	*	
Thornell Road			*
Route 108			*
Wenmark's Grove Road	*	*	*
Whittier Street Extension	*		*

**Table 30: Intersection Problems**

<i>Location</i>	<i>Obstruction in Intersection</i>	<i>Poor Alignment</i>
Wentworth Drive & Route 108	*	
Merrimac Road & Route 108	*	
Highland Street & Route 108	*	
Pond Street & Route 108		*
New Boston Road & Route 108	*	*
Gale Village Road & Route 108	*	
Gale Village Road & Maple Avenue	*	
Goulds Hill Road & Bear Hill Road	*	*
Chase Road & Pond Street		
Peaslee Crossing Road, West Main Street & Thornell Road	*	
Smith Corner Road & Peaslee Crossing Road	*	
Wallace Street, Chase Road & Highland Street		*
Bancroft Road & Bear Hill Road		*
Maple Avenue, Amesbury Road & Route 108		*

The Technology Transfer Center at UNH utilized their Road Surface Management System (RSMS) to list every road section in Newton that requires repair. Repair projects are prioritized according to four factors: traffic volume, roughness, road condition, and road repair category ranking. Three factors, traffic volume, roughness, and road condition were assigned a percentage-weighted value by the Newton Survey Team at the time of the survey in 1995. The assigned values are as follows: Traffic=50%, Roughness=35%, Road Condition =15%. See Table 31 for prioritized list of Newton paved roads requiring repair.

**Table 31: Prioritized List Of Paved Roads Requiring Repair**

<i>Rank</i>	<i>Road Name</i>	<i>Road Width (Ft.)</i>
1	Town Hall Road	11
2	Birch Road	23
3	Wentworth Drive	21
4	Bartlett Street	17
5	Marcoux Grove	16
6	Heath Street	17
7	New Boston Road	22
8	Pond Street (Section 1; inc. bridge)	16
9	Pond Street (Section 2)	19
10	Gale Village Road	18
11	Smith Corner Road	21
12	Wilders Grove Road	20
14	Hadley Road	22
15	Whittier Street Extension	20
16	Goulds Hill Road	21
17	Tanglewood Drive	21
18	Websters Grove Road	15
19	Lincoln Road	18
20	Tara Lane	22
21	Howard Lane	20
22	Pricilla Lane	22
23	Crossman Circle	22
24	Lisa Lane	21
25	Audrey Lane	22
26	Chase Road	17
27	Whippoorwill Drive (Section 2)	20
28	Durgin Drive	23
29	Fernwood Drive	23
30	Brimstone Circle	19
31	Chongor Drive	20
32	Meadowview Drive	20

## **SCENIC ROADS**

The town of Newton has designated several roads as scenic. Revised Statutes Annotated 231:157 and 158, which define a scenic road, state that stonewalls and trees with a circumference of 15 inches or more at a point 4 feet from the ground cannot be removed or altered without prior written consent, unless they interfere with public safety. In such cases, the road agent may cut or remove trees with a circumference of 15 inches or more with the permission of the board of selectmen. In Newton, the authority to remove or alter trees and stone walls with prior written consent was transferred from the Planning Board to the Conservation Commission by town vote in 1974. Scenic road designation does not preclude the paving or widening of the road; nor does it limit the development potential of abutting property.

Scenic roads in Newton currently include:

- Gale Village Road
- Currierville Road
- Maple Avenue
- Gould's Hill Road
- Heath Street
- Bartlett Street
- Thornell Road

## **TRUCK TRAFFIC**

As the region grows, Newton can expect additional truck traffic. In order to ensure that trucks use the proper roads, the town should adopt and enforce RSA 47:17 Section VIII, which empowers the selectmen to make special regulations on particular roads (with the exception of speed) such as:

- Stop intersections
- Controlling traffic signs
- Exclude trucks altogether
- Adopt maximum weights for town roads during seasonal wet periods

This would reduce the destruction and hazards of truck traffic to the town roads and shoulders. In particular, pedestrian and school children should be kept separate from truck traffic to ensure community safety.

## **EMERGENCY VEHICLE ACCESS**

A number of dead-end roads in Newton currently limit accessibility by emergency vehicles. Should an obstruction occur in these roads, houses beyond the obstruction are out of reach in an emergency. For this reason, it is recommended that the Planning Board adopt the specifications suggested by the American Planning Associates and the New

Hampshire Office of State Planning. These specifications include a maximum dead-end road length of 500 feet. They state that the end of a dead-end road will incorporate a 1000-foot turn around to accommodate emergency vehicles, and the road will have no more than eight residences.

## **SPECIALIZED TRANSPORTATION SERVICES**

Specialized transportation services from Lamprey Health Care are currently available to elderly and disabled residents. Lamprey Health Care provides this service through the use of a lift-equipped van. The use of this service has increased dramatically over the years. For example, the number of units, or one way rides, grew from 1000 in 1994 to 1700 in 1997. The number of units in 1998 is estimated to be 1822. Newton's elderly and disabled population needs this type of specialized transportation. Growth in these population segments is anticipated and will increase the value of the current services provided by Lamprey Health Care.

## **PEDESTRIAN TRAVEL**

Pedestrian travel is important to residents living near the commercial centers of Newton Junction, town center and Rows corner, as well as for children who live near Memorial and Middle schools. In nearly all cases travel occurs along paved and unpaved shoulders of the roadway. Asphalt sidewalks were installed at one time in portions of town center and Newton Junction, but they are not maintained and, in most cases, are unusable .

Because the population density of the town is relatively low there has not been a perceived need for sidewalks except in the commercial centers mentioned above. In the future, the town should include a requirement for sidewalks, or alternative pedestrian pathway, in residential developments where population density will be higher .

## **BICYCLE TRAVEL**

Bicycle travel is a seasonally-dependent means of transportation in Newton. Except for students commuting to and from the schools, most bicycle travel in Newton is for recreation.

Although use of bicycles for commuting is low, the potential is quite high. Roughly 550 Newton commuters (30% of all Newton commuters) travel six miles or less to their destination . This translates to a bicycle commute time of 25 minutes or less.

The NHDOT and the Salem-Plaistow-Windham MPO (Metropolitan Planning Organization) have jointly developed a regional bicycle plan that is designed to create a basic network of bike routes between communities . This network is designed to serve non-recreational users, and as such, often follows high volume state routes. One road in Newton, Route I 08, is included in the regional plan. There are other roads in Newton that may be added in the future, but the current plan has been developed as a starting point for improvements. As these roads are reconstructed, the state will include 4 foot paved shoulders in each direction to be used as bikeways.

The town's planning and site review process should be aware of these plans and incorporate bicycle facilities in site and subdivision plans, where appropriate. Some bicycle facilities will be used primarily by commuters; others will be used primarily by recreational riders. Requirements for bicycle facilities should clearly reflect the intended user.

## **PARK AND RIDE LOTS**

The NHDOT has constructed 21 park and ride lots around the state in support of individual efforts to carpool. There are no such lots in Newton; however, a recently upgraded and expanded lot, the Michael C. Weston Memorial Park & Ride, has opened in Plaistow on Westville Rd. near Rte 125. Daily commuter buses to Boston, operated by the Coach Company, serve this lot.

## **RAIL SERVICE**

Freight rail service to the Town of Newton ended in the late 1980's. The owner of the tracks, Guilford Transportation, provides a siding in Newton Junction. Currently, freight rail service passes through town. Amtrak passenger rail service is expected to begin in 1999. The track has three grade crossings and one bridge crossing (Pond St.) in Newton. The grade crossings are in generally good condition, and all contain flashing warning lights. The bridge, however, has been posted with an 8 1/2-ton weight limit. School buses no longer cross the bridge due to safety concerns.

Newton is also traversed by an abandoned railroad bed, which once connected the town with Merrimac, Massachusetts, and is now maintained by the Conservation Commission as the Peanut Trail recreational trail.

## **PARKING**

Public parking is very limited within the center of Newton. Most available parking in this section of town is on-street parking, along the shoulders of Route 108, and in private lots. On-street parking can create a safety problem for traffic traveling through the center of town. Increased use of the Town Hall will further aggravate the parking shortage.

## **FUTURE ROAD CORRIDORS**

As population and travel demands grow in Newton, the existing road network will become increasingly congested and polluted. In addition, changes in the regional road network can result in an immediate impact on Newton. One change that would have a large effect on Newton would be the existence of a traffic interchange on Interstate 495 at Newton Rd. (Route 108) in Haverhill. It would be difficult for NHDOT to reconstruct Route 108 to handle the increased traffic through the town center without disrupting many homes and businesses. The town should look for ways to protect potential road corridors from future development so that new roads can be constructed to take pressure off of the existing road network.

## FINANCING ROAD IMPROVEMENTS

Newton's road network is eligible for three forms of financing: Federal Aid Rural Secondary, state aid, or town aid. Currently only Route 108 receives Federal Aid Rural Secondary Funding.

Roads currently maintained by the New Hampshire Department of Public Works and Highways are eligible for state aid. State-maintained roads are outlined below:

- Route 108
- Amesbury Road
- Bear Hill Road
- Merrimac Road
- West Main Street (including local roads of Main Street [Kingston Line to Whittier Street], Whittier Street [Main Street to Highland Street], and Highland Street [Whittier Street to Route 108].)
- Peaslee Crossing Road
- Pond Street (vicinity of Rowe's Comer), summer only.

Newton is responsible for maintenance of all other roads in town.

An amendment to RSA 261:153, which allows communities the option of establishing a fee to be used for transportation improvements, became effective in May 1998. A \$1.00 to \$5.00 fee to raise local matching funds to make local improvements would be approved through the town meeting process. This would be collected with motor vehicle registration fees.

As already mentioned, 37% of Newton's paved, local roads are in need of rehabilitation or reconstruction. To accomplish this and still perform preventive and routine maintenance, the town of Newton will need an intermediate-range plan. This plan would contain estimates for the annual expenditures separated into capital improvement and annual road maintenance.

The total estimated cost to complete rehabilitation and reconstruction was \$284,245 in 1995. An additional \$95,119 would be required to rehabilitate and reconstruct the unpaved portion of the town road network.

The Inventory and Assessment of Road Surfaces for the Town of Newton report is a valuable tool that can be utilized by the town to plan roadway improvements. The report utilizes the Technology Transfer Centers' Road Surface Management System (**RSMS**) to generate a prioritized list of every road section, with recommended repairs and associated costs .

If the town were, in the future, to be declared an Urban Compact Area, roads currently maintained by the state will become a town responsibility. NHDOT, however, anticipates no additions to the Urban Compact list at this time.

Enactment of the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) and the Clean Air Act Amendments of 1990 (CAAA) have begun to change significantly the way

transportation planning is carried out in New Hampshire. The basic thrust of TEA-21 is to increase and elevate the importance of local decision making in the regional, state, and federal transportation planning process. Much of the responsibility for transportation planning in this region falls to the Salem-Plaistow-Windham Metropolitan Planning Organization (MPO). The Salem-Plaistow-Windham MPO is responsible for developing a transportation plan and a prioritized list of capital improvements for transportation. From the plan, the MPO will develop the Transportation Improvement Program (TIP) on an ongoing two-year cycle.

Given the significance of the MPO Plan and TIP in defining the future transportation system in the region, it is important that the town become and remains actively involved in the MPO at the Technical and Policy Committee levels. In the future, the town should develop and submit to the MPO a specific list of transportation improvements eligible for federal funding, to be considered during the next TIP development cycle.

## **RECOMMENDATIONS**

The following recommendations will assist the town of Newton to continue providing a safe and efficient transportation network for its population.

- Implement the Inventory and Assessment of Road Surfaces for the Town of Newton by establishing a capital improvement budget for road rehabilitation and reconstruction.
- Require new developments to submit traffic impact statements and require developers to pay for necessary off-site roadway improvements to mitigate the impact of the development.
- Work with the New Hampshire Department of Transportation in reviewing subdivision access to state-maintained roadways. This will provide the town the ability to ensure the safest street network possible.
- Work with the New Hampshire Department of Transportation to develop a program for improving state-maintained roads in Newton. Of special concern are the current alignment problems on Route 108 and the inclusion of paved shoulders between New Boston Road and Peaslee Crossing Road. Paved shoulders should also be constructed on West Main Street between Thornell Road and Kingston town line.
- Urge the Rockingham Planning Commission to evaluate the impact of a highway interchange at Route 108 and Interstate 495 on the roadways through Newton.
- Include funds in the budget to provide pedestrian access approaching Greenie Park, Gale Library, the Town Beach and other Town facilities, to improve safety for drivers, pedestrians and cyclists.
- Continue support of specialized transportation services for elderly and disabled and increase the level of support as the community grows.
- Add to the list of scenic town roads.
- Develop an improvement policy statement to address the needs of public safety and scenic quality along currently designated scenic roads. This statement should define

the circumstances under which a scenic road would be improved (i.e., traffic volumes, accident rates, or increased maintenance costs).

- Develop a municipal, public parking area for the town center that will blend in with the historic character of the town center, while providing for improved public safety.
- Develop alternate highway access to the town's industrial areas.
- Pursue the repair or replacement of the bridge on Pond Street over the railroad tracks with Guilford Transportation and the Public Utilities Commission.
- Poll the citizens of the town for their opinion before the town considers paving dirt roads.